OPERATION OVERLORD AND THE PRINCIPLES OF WAR

MAJ Stephen S. Seitz

CDR Kelly M. Oakeley

CDR Francisco Garcia-Huidobro

Joint Forces Staff College

Joint and Combined Staff Officer School

Class #02-2I

6 June, 2002

Faculty Advisor: Mr. Gerald Mitchell

Seminar #7

Report Documentation Page

Form Approved
OMB No. 0704-0188

Public reporting burden for the collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to a penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number.

1. REPORT DATE	2. REPORT TYPE	3. DATES COVERED
06 JUN 2002	**N/A**	**-**

4. TITLE AND SUBTITLE	5a. CONTRACT NUMBER
Operation Overlord and The Principles Of War	5b. GRANT NUMBER
	5c. PROGRAM ELEMENT NUMBER
6. AUTHOR(S)	5d. PROJECT NUMBER
MAJ Stephen S. Seitz; CDR Kelly M. Oakeley; CDR Francisco Garcia-Huidobro	5e. TASK NUMBER
	5f. WORK UNIT NUMBER
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES)	8. PERFORMING ORGANIZATION REPORT NUMBER
Joint Forces Staff College 7800 Hampton Blvd Norfolk, VA 23511-1701	
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES)	10. SPONSOR/MONITOR'S ACRONYM(S)
	11. SPONSOR/MONITOR'S REPORT NUMBER(S)

12. DISTRIBUTION/AVAILABILITY STATEMENT
Approved for public release, distribution unlimited

13. SUPPLEMENTARY NOTES
Taken from the Internet.

14. ABSTRACT
See report.

15. SUBJECT TERMS

16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES	19a. NAME OF RESPONSIBLE PERSON
a. REPORT	b. ABSTRACT	c. THIS PAGE			
unclassified	**unclassified**	**unclassified**	**UU**	**27**	

Standard Form 298 (Rev. 8-98)
Prescribed by ANSI Std Z39-18

Introduction

Operation OVERLORD provides an ideal case study for the joint military planner. An analysis of Operation OVERLORD using the timeless principles of war provides insight that can still be useful today when planning combined, joint, and coalition operations. With the onset of the global war on terrorism, modern joint planners face complex challenges. These threats will have to be met by fighting as a combined, joint, and coalition team. In this light, now is a good time to look back at the planning and execution of the largest and most complex combined, joint, and multinational amphibious operation in the history of warfare for some lessons learned and planning perspectives. Extremely detailed planning and innovative preparation ultimately led to the liberation of France, the fall of Germany, and Allied victory in Europe. The origins of Operation OVERLORD will be summarized next, followed by an example of each principle of war as it pertained to the operation.

The Origins of Operation OVERLORD

In August 1942, an important event occurred that would influence planning for the invasion of Normandy. It was a raid on the small French port of Dieppe by Canadian forces. It was a disaster, but highlighted problems that a large-scale cross-channel amphibious assault would face. The idea was to hold the port for a short time, divert forces away from the Russians, and then re-embark, "thereby testing the feasibility of a large-scale invasion in France." An infantry division with commando and tank support assaulted the beach but they were pinned down by artillery fire (there was no preliminary naval bombardment). About half of the forces, over 3,000 men, were soon captured, wounded, or killed. The lessons learned were many. Plywood landing ships "were easily shot to pieces;" ship-to-shore communications were inadequate; commanders didn't know what was happening on the front; and specialized equipment was needed to rapidly move soldiers and equipment off of the beach (9:17-18).

At the January 1943 Casablanca Conference, Operation ROUNDUP (a plan for a cross-channel invasion in 1943) was postponed until mid-1944. There, it was also decided to setup an Anglo-American headquarters in London to plan the invasion of France. British Army Lieutenant General Fredrick E. Morgan was selected to head a planning staff and given the title Chief of Staff Supreme Allied Commander. His team was known by his duty title acronym, COSSAC (9:20).

The mission of COSSAC was to plan Operation OVERLORD (formerly ROUNDUP). The task was to plan for "a full-scale invasion of Europe, to take place as early as possible in 1944." With this strategic objective already defined, the COSSAC planners had to develop a concept of operation. The first obstacle was the lack of naval equipment; German U-boats were sinking more tonnage than could be replaced. However, by the summer of 1943, the Allies essentially won the Battle of the

Atlantic (U-boats vs. British ships). This was largely attributed to technology advancements and escorts by American warships. The next challenge was to determine where to land. Many variables had to be considered. For example, Pas-de-Calais seemed the obvious landing point, since it offered the shortest route (facilitating deployment and resupply with minimum sea time, and responsive air support from airfields within range in England). The Germans also realized this and placed heavy defenses there. Another problem was the lack of large harbors in the area comparable to other potential coastal landing sites. They eventually chose the less fortified beaches of Normandy (150 miles southwest of Pas-de-Calais). One of the most important advantages of this location was that it was South of the Seine River and most of the heavily fortified areas were north of the Seine; by destroying bridges, the German response could be greatly hampered. If sufficient supplies could be built up at Normandy, the Allies could advance across Northern France and assault Germany (9:20-22).

> *After much research, the COSSAC team decided on four specific beaches – code-named Omaha, Gold, Juno, and Sword – on the Northern coast of the Cotentin Peninsula near the mouths of the Orne and Vire rivers. General Morgan and his planners devised a scheme that entailed landing three divisions (about thirty thousand men, with twenty thousand more in reserve) on the beaches and dropping two airborne divisions (one U.S. and one British, using both paratroopers and gliders) nearby. This plan was unanimously approved at a conference held in Quebec in August 1943* (9:22).

With their strategic concept approved, the COSSAC staff now needed to further develop operational objectives. They faced a well-entrenched enemy; extremely detailed planning and preparation would be required for success. The German Army had occupied the entire French coast since it began occupation in the summer of 1940. The Germans had initially intended to attack Britain from France, but their attack into Russia left relatively few troops in the west. Hitler wanted to fortify the coast enough to prevent British landings. German success at Dieppe supported this strategy. With the entry of the Americans into the war, Hitler began to construct the "Atlantic Wall" in early 1942. Field Marshall Karl Gerd von Rundstedt was tasked to defend the 3,100-mile coastline. Since von Rundstedt had no clear idea of where the Allies would attack, he was forced to give priority to certain areas (the focus being the Pas-de-Calais region and areas around the major ports) at the expense of the remaining coastline. The defenses consisted of numerous obstacles, minefields, barbed wire, concrete walls, artillery positions, hundreds of concrete bunkers, and early warning radar sites (9:22-25).

As planning forged ahead, a myriad of engineering efforts were undertaken to address the challenges of a massive amphibious assault and its supporting logistics requirements. General Eisenhower was appointed the Supreme Commander of the Allied Expeditionary Force in December 1943. His headquarters, the Supreme Headquarters of the Allied Expeditionary Force (SHAEF) was established near London in early 1944. COSSAC was then incorporated into SHAEF. After much

deliberation, the United Kingdom's General Montgomery was selected to be the ground commander. In January, Montgomery arrived in Britain to inherit the COSSAC OVERLORD plan. He believed it had many flaws. For example, he felt the front was too narrow and the number of divisions "should be increased from three to five to permit an extension of the invasion to the west of the Vire River (Utah Beach), thus enabling Cherbourg to be captured more rapidly" (see Annex A, Map 1) (9:26, 30-33).

Operation BOLERO was initiated to move American troops to Britain and Operation FORTITUDE began (a massive deception plan primarily aimed at making the Germans believe the assault would occur near Calais). By January 1944, the southern counties in England became a massive training ground focused on preparing men and equipment for the assault (9:31-32).

> *"Y-Day", set for 1 June, was the date when everything had to be ready to go, awaiting only the supreme commander's word. After Y-Day no further corrections could be made to the master plan. This key date was revealed to a select audience consisting of the general staff, the senior planners, and the actual assault commanders (down to the divisional level)…in London, on 15 May* (9:40-41).

The SHAEF staff also began final tactical planning in January for Operation NEPTUNE. NEPTUNE was the first phase of Operation OVERLORD (9:41). It was the "expansion of the strategic [OVERLORD] plan into a combined tactical plan of the three services." It included input from all three "tactical Commanders-In-Chief" (to include addressing Montgomery's previously mentioned concerns) who "collectively became known as the Neptune Joint Commanders" (16:44-45).

After a weather briefing indicating a powerful storm in the region, Eisenhower postponed the planned 4 June invasion for 24 hours. Further analysis forecast no improvement on the 5th, but a short window of "fair conditions" on the 6th. "At 0400hrs on 4 June, Eisenhower took the final and irrevocable decision; D-Day would be 6 June" (7:128-129).

Objective and Simplicity

The objective and simplicity principles of war will be addressed using the same example, the Allied plan for the ground phase of OVERLORD.

> <u>The purpose of objective is to direct every military operation toward a clearly defined, decisive, and attainable objective.</u> *The objective of combat operations is the destruction of the enemy armed forces' capabilities and will to fight. … Objectives must directly, quickly, and economically contribute to the purpose of the operation. Each operation must contribute to strategic objectives. Actions that do not contribute directly to achieving the objective should be avoided.*
>
> <u>The purpose of simplicity is to prepare clear, uncomplicated plans and concise orders to ensure thorough understanding.</u> *Simplicity contributes to successful operations because simple plans, and clear, concise orders minimize misunderstanding and confusion. When other factors are equal, the simplest plan is preferable, allowing better understanding and execution planning at all echelons. Simplicity and clarity of expression greatly facilitate mission execution in the stress, fatigue, and other complexities of modern combat and are especially critical to success in combined operations* (13:3-17, 3-17).

At a macro-level, the U.S. strategic objective was to "defeat Germany first" (19:175). By today's definitions, OVERLORD was essentially a campaign plan that had both strategic and operational objectives. The overarching strategic objective of COSSAC (given at its inception) was "a full-scale invasion of Europe, to take place as early as possible in 1944" (9:21). The fundamental operational objective of OVERLORD was simply: "to secure a lodgment area on the continent from which further operations could be developed" (16:99). Despite the magnitude of OVERLORD (aimed at an unconditional defeat of Germany) and the numerous tactical operations that it would require; the campaign plan stated the commander's intent clearly, simply, and succinctly. The understanding conveyed to subordinate commands would enable confidence, encouraged freedom of maneuver, and ultimately be key to both operational and tactical success (10:72).

> *Eisenhower and his staff wrote a deliberately simple and inclusive order for OVERLORD…:*
> *"Land on the Normandy coast. Build up the resources needed for a decisive battle in the Normandy-Brittany region and breakout of the enemy's encircling positions. Land operations in the first two phases under the tactical direction of Montgomery.*
> *Pursue on a broad front with two army groups, emphasizing the left to gain necessary ports and reach the boundaries of Germany and threaten the Ruhr. On our right we would link up with the forces that were to invade France from the South. Build up our new base along the western border of Germany, by security ports in Belgium and in Brittany as well as in the Mediterranean.*
> *While building up our forces for the final battles, keep up an unrelenting offensive to the extent of our means, both to wear down the enemy and to gain advantages for the final fighting. Complete the destruction of enemy forces west of the Rhine, in the meantime constantly seeking bridgeheads across the river.*
> *Launch the final attack as a double envelopment of the Ruhr, again emphasizing the left, and follow this up by an immediate thrust through Germany, with the specific direction to be determined at the time. Clean out the remainder of Germany."*
> *It was from this ultra-simple overall objective plan – which developed almost exactly as Eisenhower and his staff had hoped and planned, a rarity in the annals of the military – that all of the hundreds of small battles were to grow* (10:72).

The initial focus of OVERLORD planning was to "gain a lodgment between the Seine and Loire Rivers." The idea was to force the Germans across the natural barrier of the Seine River, which they estimated would take 90 days. Following a pause to regroup and resupply, they would then advance beyond the Seine toward Germany (6:13).

The strategic bombing campaign began months before the invasion (11) (see Map 2). Pursuit of the operational objectives was to begin the night before the amphibious invasion with a two division airborne assault in the American zone (see Map 3). The 82nd and 101st Airborne Divisions would land in the vicinity of St Mere-Eglise, which was inland from Utah Beach (see Map 4) and secure roads leading to the beach to prevent the Germans from reinforcing their coastline defenses. The following morning the First Army under Bradley would assault the coast. The U.S. VII Corps would land at Utah Beach with the 4th Division. The U.S. V Corps would land to their east with the 1st and part of

the 29th Divisions at Omaha Beach. After securing a foothold in Normandy, the V Corps would expand the beachhead while the VII Corps cut across the Contentin Peninsula before wheeling north to capture the port city of Cherbourg. After securing the seaport, the VII Corps was to move south toward St Lo. After holding St Lo, Bradley "would have his army on dry ground suitable for offensive operations by mechanized forces." Then Patton's Third Army could advance to Brittany, seize ports (to include Brest), and cover the southern flank while the First Army began to attack toward Paris (see Map 5 for details of the actual Third Army breakout) (6:12-13).

Meanwhile, the Second British Army would operate between Bayeux and Caen, a region suitable for airfields with "a relatively unimpeded route toward Paris." The landing of airborne forces would also precede their arrival. The British 6th Airborne Division would drop before dawn near Caen with the objective of securing crossing sites over Orne River and protecting the northeastern flank (6:13).

> *At H-hour, the British 50th Division under the British 30 Corps would come ashore on Gold Beach, near Bayeux and the American zone, while 1 Corps conducted a two-pronged attack farther to the east. There, the 3d Canadian Division would cross Juno Beach near the town of Courseulles and the British 3d Division would come ashore at Sword, near Lion-sur-Mer. "In the initial stages," Montgomery told his officers, "we should concentrate on gaining control quickly of the main centers of road communications. We should then push our armored formations between and beyond these centers and deploy them on suitable ground." In this way it would be difficult for the enemy to bring up his reserves and get them past these armored formations* (6:13).

To insure that all soldiers knew what was expected out them during the invasion, rigorous training and meticulous rehearsals were conducted in Southern England (9:37, 42). Although the overall mission was complex, this was recognized from the outset. An apparent conflict with the principle of simplicity was mitigated with simply stated orders and clear objectives combined with intense training, preparation, and rehearsal. An example of simplicity was the use of dime-store crickets by the paratroopers as an alternate password. The challenge was one click and the response was two (2:63). By D-Day, soldiers were well trained, knew unit objectives and understood where they fit into the mission.

Mass

Although, the principle of mass is normally thought of in the context of an offensive or defensive action, in the case of OVERLORD, looking at the logistical and engineering efforts that were undertaken to be able to ultimately achieve and sustain mass provides an interesting study.

> The purpose of mass is to concentrate the effects of combat power at the most advantageous place and time to achieve decisive results. *To achieve mass is to synchronize appropriate joint force capabilities where they will have decisive effect in a short period of time. Mass often must be sustained to have the desired effect. Massing effects, rather than concentrating forces, can enable even numerically inferior forces to achieve decisive results and minimize human losses and waste of resources* (13:3-15/16).

Due to limited landing craft (enough built for five divisions), numerous obstacles along the beach, and heavy defenses of the Atlantic Wall, achieving mass under fire on the beaches of Normandy on D-Day would be difficult. Achieving and sustaining the buildup without adequate ports or secure airfields in enemy territory would be a paramount undertaking. To begin with, massive supplies, personnel, and equipment would have to be pre-positioned in England in preparation for OVERLORD. These efforts were complimented by the development of innovative engineering concepts and supporting specialized equipment. Some of the undertakings to create a massive lodgment will be overviewed next (9:26-32).

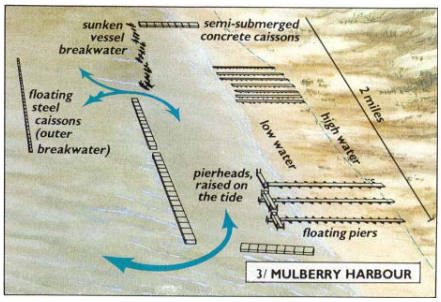
Logisticians faced unprecedented challenges during the build-up in preparation for the cross-channel invasion. They started production planning two years in advance of D-Day, the buildup of supplies in England a year ahead, "and planning of detailed logistical support six months before the Landings." This required not only a concerted joint effort but also a vast industrial effort (19:468-468).

> *The major flow of combat troops to the U.K. took place during the early months of 1944. Since most organizational equipment for these troops had been preshipped, cargo shipping was available to lift other required operational supplies. A backlog of available cargo in the United States steadily developed after 1 January 1944, because of the high equipment priority now in effect and the inability of British ports to unload larger quantities. British ports at this time had to handle not only the in-flow of cargo but also the loading of troops and supplies for the cross-channel movement to Normandy. Most of the U.S. backlog was equipment and supplies needed after the invasion got underway. ASF [Army Service Forces, part of the War Department] took action to ease the pressure upon the ports … by reducing the number of scheduled sailings from about 120 to about 100 ships per month, and by "commodity" loading individual ships solidly with single items, such as rations, clothing, lumber, or ammunition. These ships served as floating warehouses and were subject to discharge as circumstances permitted. In May and June, 54 "pre-stowed" ships were "tailor-loaded" with food, ammunition, and equipment as specified by General Eisenhower's headquarters. These ships were not intended to be unloaded in England but were dispatched overseas, held in British waters, and then moved directly to the Normandy beaches for discharge. This saved four handlings in the United Kingdom, eased the pressure on ports, railroads, and depots, and provided immediate supplies for the invasion troops* (16:99).

There were only two ways the Allies could arrive at Normandy, either by air or landing craft. It would not be feasible to deploy tanks by air. At Dieppe, tanks were unloaded from landing craft under fire, the majority were destroyed and most of the rest were stuck in soft sand and abandoned. The Allies knew having armor early in the fight was essential, but they did not want another armored disaster. They knew through photos and reports that they faced different categories of obstacles on the beaches; "artificial obstacles, with and without mines attached; mines; soft sand; concrete walls; ditches; heavily armored pillboxes and strongpoints." Many of these obstacles were designed to stop tanks, so specialized armor would be needed to bridge them. Since there was not a deep-water harbor, a man-made harbor would be needed (7:121-122). As a result, many ingenious engineering concepts were developed to build harbors, supply fuel, and perform specialized tasks (see Figure 1) (9:26-30).

A massive buildup of American troops in 1944 resulted in 950,000 men being "poised to strike," their equipment, supplies, and thousands of vehicles cluttered southern Britain (4:75).

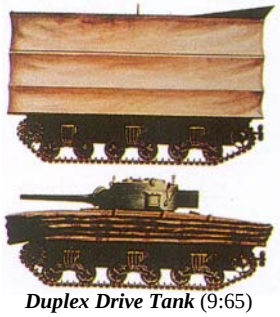
OVERLORD Engineering Examples



Mulberry Harbor (8:153)

Lodgment Innovations

- Mulberry Harbors (made of Gooseberries, Phoenixes, and Pontoons, depicted)
- Phoenixes (lines of 600-ton concrete caissons sunk to form solid lines to protection the harbor)
- Gooseberries (old ships sunk to form wave breakers)
- Pontoons (floating roadways)
- PLUTO (pipeline under the ocean, fuel delivery)



Duplex Drive Tank (9:65)

Menagerie "Specialized Armor"

- Menagerie ("specialized armor", some noted below)
- Bobbin Tank (unrolled canvas over soft sandy areas)
- Crocodile Tank (fired huge jet of flames into bunker slits)
- Flying Dustbin Tank (fired napalm containers) (9:26-30)
- Flail Tank (spun free lengths of chain to set off mines)
- Fascine Tank (emplaced wood bundles in tank ditches) (7:125)
- Duplex Drive Tank (dual prop amphibious Sherman, depicted)

Figure 1

> *A vast and complex network of camps was established near the coast. Area A, to the north of Portsmouth, consisted of over forty-three miles of parking areas for tanks and other vehicles and seventeen barbed-wire-encircled camps. (Once inside the camps, the assault formations were briefed on their destination, and any further communication with the outside world was forbidden)* (9:38).

During the buildup, British troops redeployed from Italy to form the British Second Army who would also participate in OVERLORD. By D-Day, 3,000,000 were ready to support OVERLORD (4:75). The invasion would include "over 4000 ships and craft of all types" (1:3) (over 5,000 according to other sources), "176,475 men, 20,111 vehicles, 1500 tanks, and almost 12,000 planes" (20:280).

Surprise

Operation OVERLORD provides many excellent examples of deception, used to achieve surprise.

> The purpose of surprise is to strike at a time or place or in a manner for which the enemy is unprepared. *Surprise can help the commander shift the balance of combat power and thus achieve success well out of proportion to the effort expended. Factors contributing to surprise include speed in decision-making, information sharing, and force movement; effective intelligence; deception; application of unexpected combat power; OPSEC; and variations in tactics and methods of operation* (13:3-16).

The use of the principle of surprise is probably the most interesting principle to study during OVERLORD planning and execution. Many deception plans were used to confuse the Germans as to the date and location of an Allied invasion. A key reason these deception plans worked so well was that the Allies "broke the Enigma code early in the war that could be used to decode secret German messages." This allowed the Allies to monitor German message traffic and determine whether deceptive efforts worked or not prior to their subsequent efforts (11).

A very sophisticated deception plan named FORTITUDE was implemented by the U.S. and Britain to convince Hitler the invasion was coming elsewhere and that the invasion force was larger than its actual size. Operation FORTITUDE "made full use of the Double Cross System, of Ultra, of dummy armies, fake radio traffic, and elaborate security precautions." It included the "Bodyguard" scenarios designed to mislead the Germans with false information, such as: the Allies believed strategic bombing would force surrender; the invasion would begin in Norway; an invasion would take place in the Balkans; the Russian offensive would begin in July (two months after the actual date); and an Allied invasion would not occur until at least mid-July (11). As an example, the Norway deception was accomplished by 24 personnel providing radio messages indicating the entire British Fourth Army was stationed in Scotland and would "invade Norway in mid-July." This unit was completely fictional. The Allies also used a Double Cross System in which they captured German spies in England and had them work for the British. These "turned German spies" sent messages to Germany supporting the fictional unit in Scotland. At the same time the British began placing "wooden twin-engine 'bombers'" on the Scottish airfields. Additionally, British commandos conducted raids on the coast of Norway to provide indications to Germany of a pre-invasion force (3:80-81).

"The payoff was spectacular." Hitler moved 13 army divisions to Norway and in late May Rommel requested five infantry divisions be moved from Norway to France. They were enroute when another set of messages indicated the threat to Norway and the movement order was cancelled. To paraphrase Churchill, "never in the history of warfare have so many been immobilized by so few." Additionally, Fortitude South consisted of an elaborate scheme to have the Germans believe there were 89 Allied divisions, which in reality consisted of only 47 (3:81-82).

OVERLORD is an outstanding example of employment of surprise during war. The planners were extremely effective in making the Germans believe the operation was taking place elsewhere and that the invasion would be preceded by a feint or diversionary attack.

Security

Adherence to the principle of security was absolutely essential during OVERLORD planning and preparation. Known information leaks could have caused the operation to be delayed, revised, or even cancelled. Unknown security failures could have led to another Dieppe disaster on a larger scale.

> The purpose of security is to never permit the enemy to acquire unexpected advantage. *Security enhances freedom of action by reducing friendly vulnerability to hostile acts, influence, or surprise. It results from the measures taken by commanders to protect their forces. Staff planning and an understanding of enemy strategy, tactics, and doctrine will enhance security. Although risk is inherent in military operations, application of this principle includes prudent risk management, not undue caution. Protecting the force increases friendly combat power and preserves freedom of action* (13:3-16).

Tremendous measures were taken to protect forces preparing to invade France during OVERLORD. President Roosevelt requested all visitors be denied access to the southern coast of England where training and staging operations were taking place. "Initially Churchill denied the request, as he did not want to upset the lives of the British people. Eisenhower directly requested these security measures be implemented to ensure the success of the operation and not endanger the lives of the soldiers. Churchill eventually agreed to the ban and it was implemented" (3-83).

However it was somewhat unsuccessful because numerous waivers were granted and there was a great deal of traffic through the area although this apparently did not alter the success of the operation. Another measure of security taken to protect the operation was all privileged diplomatic communications from the United Kingdom were banned in April 1944. A number of foreign governments subsequently protested this action publicly. Although stopping diplomatic communications was intended to secure the time of the invasion, Hitler correctly guessed that England would only be able to maintain the ban for a six to eight week time period and therefore could approximate a time for the invasion (3-83).

There were several security breaches that occurred prior to the invasion. Hundreds of Allied officers were privy to the details of OVERLORD. These officers and the secrets they held were code-named "Bigot" (11). Two of these senior American officers spoke at parties about classified information regarding the invasion date and both were subsequently removed from their office and transferred back to the states (3:83). The biggest security scare occurred during Operation TIGER (pre-invasion training). German E-boats sunk Allied landing craft and 700 men were lost, among them were ten "Bigot" officers. The Allied high command feared that some of them were captured alive. Eventually, after an exhaustive search, all of their bodies were recovered (11).

Economy of Force

Although the D-Day invasion was the most massive amphibious assault ever conducted, the principle of economy of force would actually be applied in many ways during OVERLORD.

> *The purpose of economy of force is to allocate minimum essential combat power to secondary efforts. Economy of force is the judicious employment and distribution of forces. It is the measured allocation of available combat power to such tasks as limited attacks, defense, delays, deception, or even retrograde operations in order to achieve mass elsewhere at the decisive point and time* (13:3-16).

Economy of force measures were applied before, during, and after D-Day.

In the months prior to the invasion, the Allies began to work closely with the French resistance. Teams of two officers (British or American) and a radio operator were dropped all over France to train French Resistance fighters. Several groups of Special Air Service (SAS) men also parachuted into

France with jeeps to undermine German lines of communications. The British Special Operations Executive (SOE) supplied the resistance at night with airdrops in remote fields temporarily lit by torch at the sound of aircraft. With the assistance of these small teams, the resistance would play a vital role prior to and after D-Day by sabotaging bridges, railways, and telephone lines, assassinating German officers, and providing targeting information and other intelligence (9:46-47).

Prior to D-Day, a top-secret unit called the 23rd Headquarters Special Troops would play a key role in simulating Patton's Third Army, (a substantially larger force). They were a centerpiece for the FORTITUDE deception plan that would make the Germans believe Patton was poised to attack by conducting and amphibious assault on Pas-de-Calais (10:27).

During D-Day, fake paratroopers were dropped. They broadcast the sound of machine gun fire on the way down and would explode upon landing. These were highly successful in making the Germans believe a large airborne landing was taking place in various locations. The allies simultaneously landed real paratroopers. Units deployed to fight the fake paratroopers. After discovering fake ones, many Germans ignored landings of real paratroopers (10:27).

Following D-Day, the 23rd Headquarters Special Troops became known by the Germans as "a Phantom Army" and subsequently nicknamed themselves the "Ghost Army." By using economy of force to deceive the German's into believing the allied force was much larger than in actuality, they supported the main effort (10:17). They relieved existing units in the night, freeing them to maneuver while portraying an appearance to the enemy that the unit they replaced was still there. They used realistic looking inflatable tanks and other vehicles (positioned under camouflage at night where real vehicles were before); broadcast recordings of voices and moving equipment; used artillery simulators; simulated radio traffic of the units they replaced; and spread false intelligence to locals (10:18, 38, 46, 164).

An example of their efforts was Operation BRITTANY. The Ghost Army simulated four armored columns moving west into the Brittany Peninsula and were successful in freezing "the German Seventh Army while the real American units secretly disengaged for a major push eastward in Normandy" (10:80). The Ghost Army was also successful in drawing fire from the Germans, protecting the allies and wasting German ammunition (10:90).

Offensive

The Principle of Offensive was used effectively throughout Operation OVERLORD, in the physical dimension of the attack and in the mind set.

> The purpose of an offensive action is to seize, retain, and exploit the initiative. *Offensive action is the most effective and decisive way to attain a clearly defined objective. Offensive operations are the means by which a military force seizes and holds the initiative while maintaining freedom of action and*

> *achieving decisive results. The importance of offensive action is fundamentally true across all levels of war. Commanders adopt the defensive only as a temporary expedient and must seek every opportunity to seize or retake the initiative. An offensive spirit must therefore be inherent in the conduct of all defensive operations* (13:3-15).

Preliminary actions that shaped the area of operations (see Map 6 and 7) included: substantial reduction of enemy air capabilities; destruction of lines of communication to prevent timely movements of the reserves; psychological operations to affect enemy morale; threatening to open a front in France from the Mediterranean; and a coordinated thrust in the Soviet front. Deception had the desired effect of tying important forces in other geographic areas. Together, these actions allowed the Allies to gain initiative through robust offensive actions and therefore compel the enemy to react instead of act. After the war, Goering noted: "Under Allied destructive pounding, the Luftwaffe had declined to a sad state by D-Day. The fact was that in this state, to send his bombers to battle with the enormously superior Allied air force would have been frank suicide, and he chose to nurse them cautiously for night mine-laying operations off the beaches which might hamper the buildup" (18:38).

These preliminary actions were followed by the airborne assault and amphibious phases, which in essence were offensive, with the purpose of securing the initial beachhead. The purpose of the breakout was to seize the physical objectives for the operation, which included securing the lodgment on the continent from which further offensive operations could be developed in the west (Cherbourg-Brittany group of ports, the area from Cherbourg to Nantes). All of this was done by achieving leverage, with the timing, tempo, synergy, synchronization, and depth – adequate enough to keep the enemy off balance and bring them to culmination. "General Eisenhower was up and down the line like a football coach, exhorting everyone to aggressive action. He constantly urged his commanders to ask for full air support in their drives. He demanded strong pressure against the Germans at all times to keep the front in motion" (18:75). The enemy lost the initiative and was forced into a defensive posture. "Instead of developing a strategic plan with the broad objective of throwing out the invaders, the Germans were being forced by the speed of our buildup to plugging gaps in their line, rushing regiments and scraps of panzer units wherever the danger seemed greatest at the moment." The thrust was kept up until operational reach determined the momentary slow down of the offensive until the logistic piece could catch up; specifically this happened when the forces had reached the Seine by D+ 80 instead of D+ 90 (17:69).

During the whole operation the overwhelming air power under the command of Eisenhower played a key role in keeping the Germans on the defensive with no possibility of seizing the initiative.

This was accomplished by: impeding daylight movement of enemy forces (reserves); preventing timely buildup and corresponding counterattacks; interdicting forces so when they arrived at the front their real value was severely reduced; and actively defending Allied forces (18:68).

> *The Germans had optimistically planned to cover one hundred Kms at night under screen of darkness. But with bridges down and rail centers blasted apart, progress was often cut to twenty. Convoys became separated; units appeared piecemeal in the battle area, often without their heavy equipment. The German High Command tried to make up the deficiency by milking garrisons not only in Brittany but in the southeast and southwest France, divisions moved from Belgium and tried the hazardous ferry crossing of the Seine, where they fell prey to our planes. There was not a bridge standing over the river below Paris* (18:68).

The German General Warlimont (Deputy Chief of the Armed Forces Staff) said: "If you ask why the German Airforce did not bomb the places where you landed more effectively, the answer is that they were unable to break through your defenses in order to find and hit the targets at all" (18:38).

Maneuver

The principle of maneuver was present throughout the planning and execution at both the strategic and tactical levels of war.

> The purpose of maneuver is to place the enemy in a position of disadvantage through the flexible application of combat power. *Maneuver is the movement of forces in relation to the enemy to secure or retain positional advantage, usually in order to deliver – or threaten delivery of – the direct and indirect fires of the maneuvering force. Effective maneuver keeps the enemy off balance and thus also protects the friendly force. It contributes materially to exploiting successes, preserving freedom of action, and reducing vulnerability by continually posing new problems for the enemy* (13:3-16).

Strategically maneuver was present in the sense of the stratagem considered: the operation was synchronized with an offensive on the Soviet front; deception was used to tie forces in the Pas-de-Calais area, positioning credible forces in the Mediterranean area at the time of commencement of OVERLORD; and finally, by launching Operation ANVIL to open additional ports and tie down more forces – this all caused enemy concentrations away from the main effort. Maneuver was demonstrated at the operational and tactical level when an airborne division was dropped in the rear to divert enemy forces, which allowed the VII Corps to virtually walk ashore at Utah Beach (when the German forces were tied down in the Caen area) giving the necessary freedom of action to U.S. forces to pursue seizing the port of Cherbourg and the rest of Cotentin Peninsula. Maneuver was also demonstrated in the way the German Seventh Army was brilliantly encircled and trapped, (see Map 7) (17:171).

From the beginning the Allies were constantly worried about being out maneuvered, which was the reason for expanding the landing and lodgment areas. This allowed more room and therefore options to face the anticipated possible enemy courses of action. As the situation evolved the Germans confirmed the need for additional space (18:73).

> After the storm of 19 June Eisenhower was convinced that the character and pattern of the German defense, that changes were needed in the original tactical plan. He was no longer so much worried by counterattack as by the possibility that the Germans would move strong enough forces in front of us to create a stalemate. We needed elbow room badly – room to maneuver (18:73).

Unity of Command

The Principle of Unity of Command was present throughout Operation Overlord from the planning to the execution of the operation.

> The purpose of unity of command is to insure unity of effort under one responsible commander for every objective. Unity of command means that all forces operate under a single commander with the requisite authority to direct all forces employed in pursuit of a common purpose. Unity of effort, however, requires coordination and cooperation among part of the same command structure. In multinational and interagency operations, unity of command may not be possible, but the requirement for unity of effort becomes paramount. Unity of effort – coordination through cooperation and common interests – is an essential complement to unity of command (13:3-15).

Unity of command and situational awareness (anticipation) permitted the Allied forces to keep adequate timing and tempo and to maneuver faster than the enemy. This allowed them to take advantage of the opportunities that the evolving situation presented. Although now appearing obvious, the Allies only realized the importance of unity of command through lessons learned during Operation TORCH (the invasion of North Africa by the Allies). This experience of improper command and control played a key part in the design and the willingness of all parities to agree upon the requirements of General Eisenhower. The results are clearly seen in the authority given to him for Operation OVERLORD and the later assignment of command over Operation ANVIL (18:64).

General Eisenhower discovered during Operation TORCH that, among other things, the complexities of large-scale combined amphibious operations required complete integration of a coalition under one commander. The unity of effort that logically everyone understands in the planning process, was just not good enough to obtain the necessary synchronization and synergy required to overwhelm a trained and experienced enemy. It was necessary to have all the resources under one commander, who would exercise OPCON over the assigned forces. This concept was embedded in General Eisenhower's mind when he became the Supreme Commander of the European Campaign and specifically for Operation OVERLORD he made sure it was present in all aspects; this is clearly evident in the command and control structure he established (see Annex A, Diagram 1) (18:64).

Unity of command was also demonstrated in subordinate echelons during planning and execution. An example is in the Supreme Commander's designation of General Montgomery to command all Armies (British, Canadian, and U.S.) for the initial phase of the operation and when the German Seventh Army exposed themselves to be trapped when they attempted to counterattack to cut

the Allies off in the Avranches. General Montgomery was able to take advantage of their mistake because he had unity of command. The objective of seizing Brittany ports was delayed to take Advantage of the situation (18:64).

> *General Bradley communicated with Field General Montgomery, who was still responsible for direction of operation pending the time the Supreme Commander took over Tactical Command on the Continent. Bradley outlined his scheme with which the Field Marshal at once agreed. Plans where promptly worked out and orders issued. The ring of steel began to close around the trapped Seventh Army* (18:64).

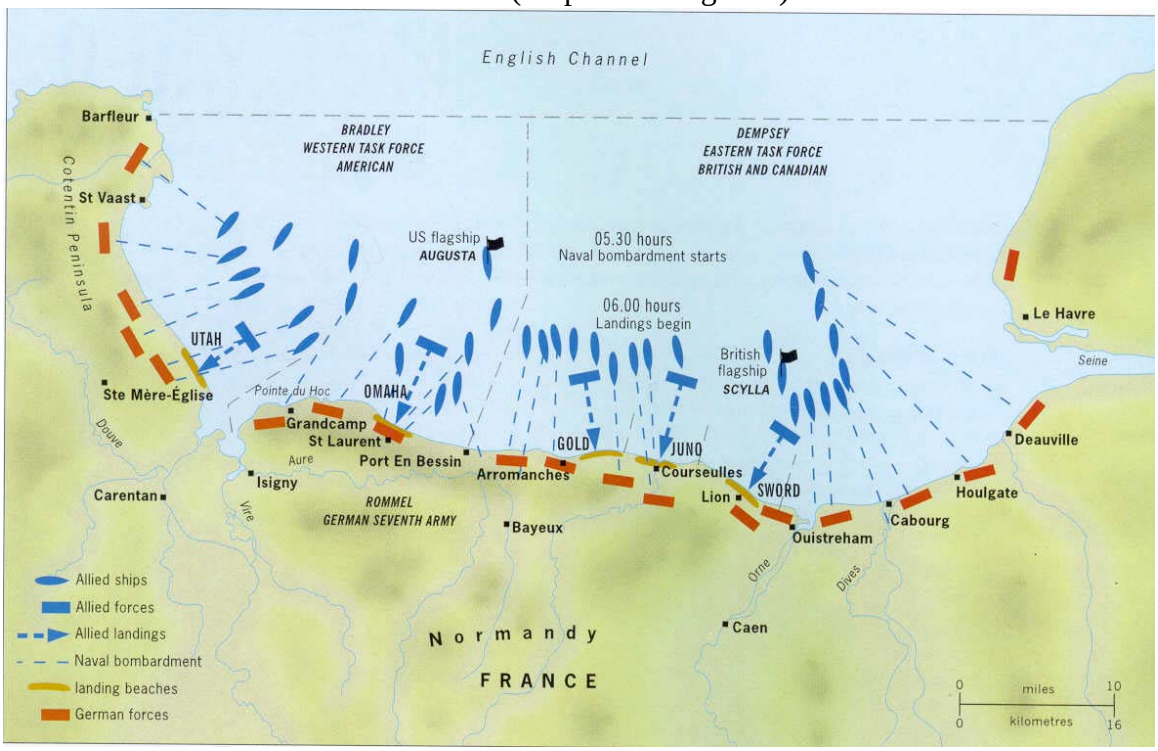
In a retrospective look at the command and control organization, it would be seen today as a lead nation and functional type command and control.

On the German side the situation was totally different. "The Germans from almost the first blow had been off balance, despite years of preparation to meet just such an attack as struck on 6 June. For this failure there are many explanations. Most striking perhaps was the German lack of unified command, which the Allies had in SHAEF" (see Diagram 2). The D-Day results and the lack of trust between Hitler and his commanders resulted in continuous replacement of high-ranking officers in key positions. Unity of command was further undermined by the unsuccessful attempt on Hitler's life on 20 July. This resulted in many senior officers being court-martialed and executed and others being removed from their posts. The sum of these actions greatly undermined unity of command and certainly had an important effect on the German response to OVERLORD (17:175).

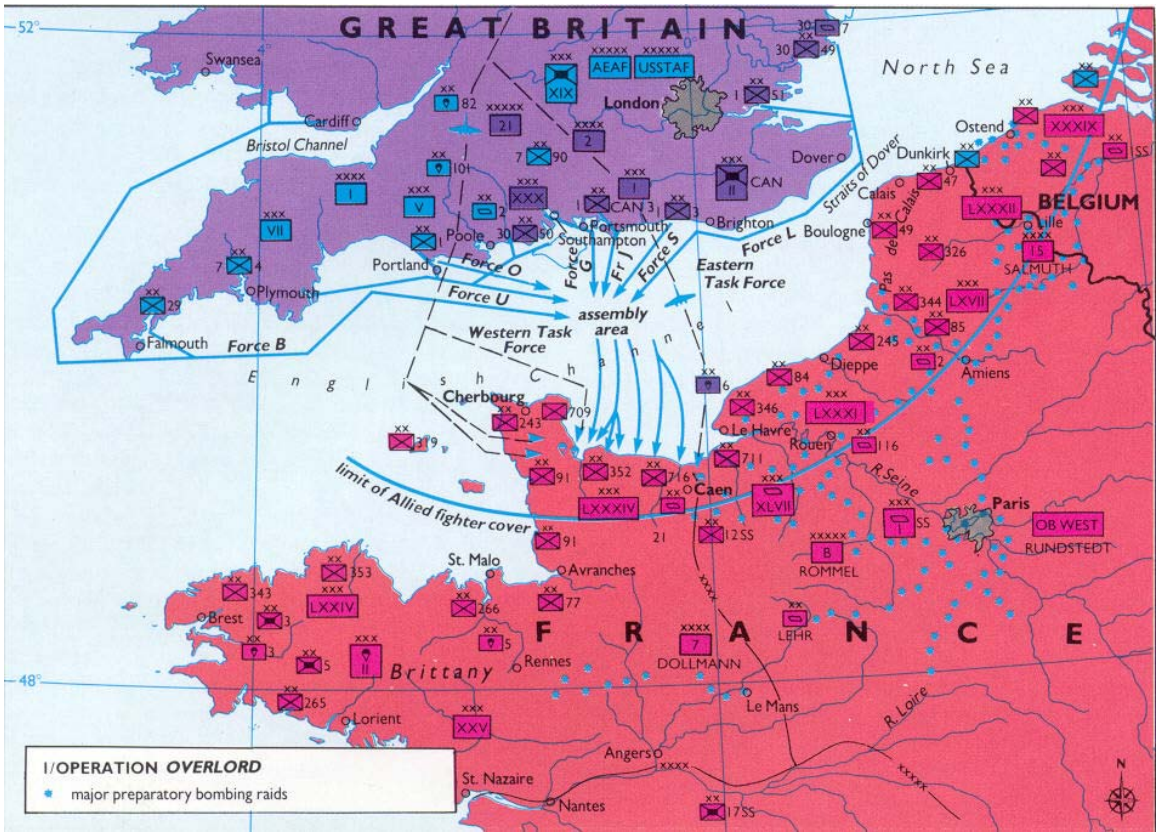
Conclusion

Operation OVERLORD provides a wealth of examples that demonstrate adherence to the principles of war is key to attaining victory. Although technology has evolved significantly since World War II, success or failure on the modern battlefield can still be determined by implementations of the enduring principles of war. Like the designers of OVERLORD, we face significant challenges in the foreseeable future that will require innovative planning to overcome. These challenges are complicated by conflicts in political perspectives, worldviews, international alliances, and diverse threats (many of which are asymmetric). Joint planners must be able to successfully exploit the advantages of fighting as a combined, joint, and coalition team, just as our predecessors did throughout OVERLORD planning and execution. Strict adherence to all principles of war is not always possible (for example, the required complexity of OVERLORD conflicted with simplicity), however, recognizing conflicts and mitigating them, as OVERLORD planners and trainers did, is essential to success. According to Joint Publication 3-0: "The principles of war guide warfighting at the strategic, operational, and tactical levels. They are the enduring bedrock of US military doctrine" (12:A-1). Adherence to the principles of war during mission planning and execution is absolutely imperative.

Annex A (Maps and Diagrams)

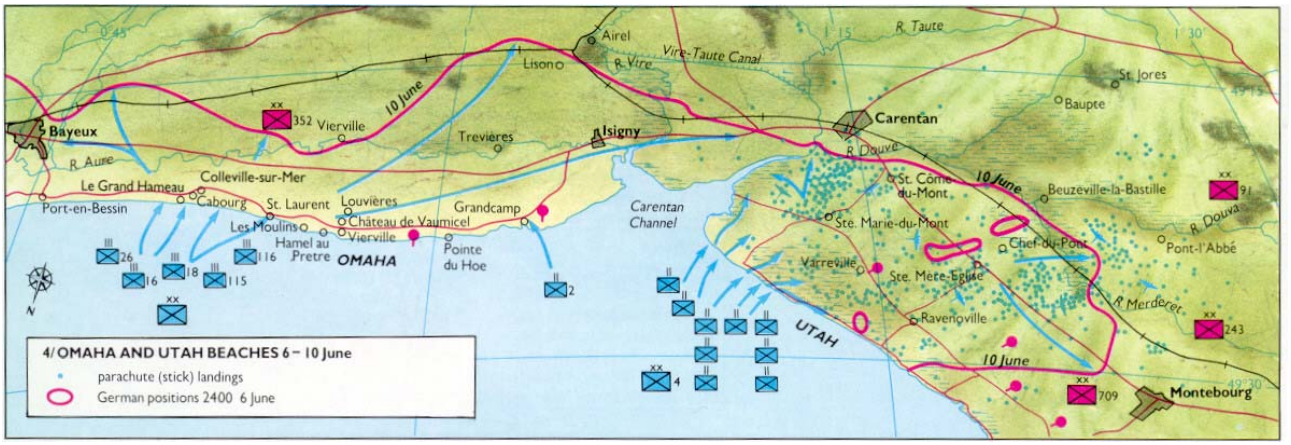


Map 1 - D-Day Invasion Area (14:146)



Map 2 – OVERLORD Preparatory Bombing (8:152)

"Strategic Bombing Objectives: wear down the Lufwaffe to gain control of the skies, destroy transportation systems to deter enemy and disrupt communication" (11).



Map 3 – Normandy, American Sector 6-10 June (8:152)

The D-Day offensive began with airborne operations aimed at countering German reaction to the massive amphibious assault that soon followed.

> *Four and half hours before H-Hour, the airborne flank guards began dropping into place. A total of 1,662 aircraft and 512 gliders of the U.S. 9th Troop Carrier Command, and 733 aircraft and 355 gliders of 38 and 46 Groups RAF moved three airborne divisions and their equipment…On the western flank, the 101st Airborne Division was scattered over an area since estimated at 25 miles in length and 15 miles wide, and with some small parties broadcast even further afield. By dawn its organized strength was some 1,100 men instead of the 6,600 who had dropped. 82nd Airborne Division were equally dispersed, only one regiment landing on its allotted zone; of the remainder of the division only 4 percent were in the right places. The reason for this violent dispersal was simply what wind, cloud and anti-aircraft fire all conspired to drive aircraft from their computed courses. Navigators simply hoped they were in the right place at the right time when they gave the signal to jump, but of the men who jumped relatively few were able to recognize where they were once on the ground. The only saving feature of this chaotic affair was that the Germans could discern no coherent pattern and could, therefore, take no coherent counter-action until it was too late* (7:130).

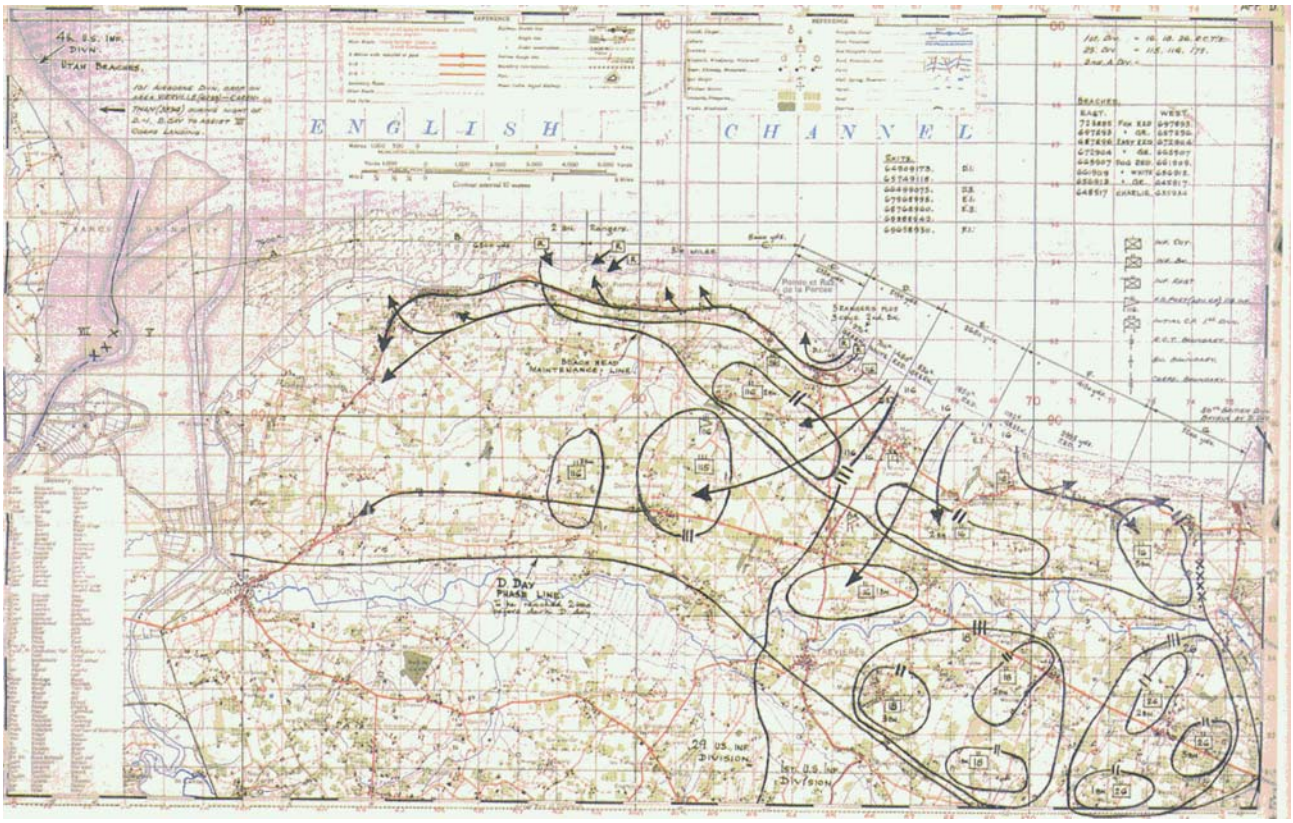
By chance, a party of paratroopers ambushed a vehicle carrying the Commander of the German 91st Division. This division was trained to defend against airborne assault and was one of the only mobile reserve units near Utah Beach. The loss of their commander delayed reaction until it was too late (7:130).

The 8th Infantry Regiment of the VII Corps made the first amphibious assault on H-Hour at Utah Beach with 600 men. During their assault, "276 U.S. aircraft roared overhead to dump 4,000 bombs on beach defenses" while landing craft fired rocket salvos and warships bombarded defenses. "Alongside the 20 landing craft swam 28 'Duplex Drive' Sherman tanks." Various watercraft sprayed the beach with artillery and machine gun fire at the few targets. The landings were made a mile to the south due to wind and currents. Fire from German strongpoints was minimal. Within two hours they cleared the beach and headed inland. Six more battalions had landed and cleared the beach by 1000 "without incident." The VII Corps waded through the wetlands to linkup with the 82nd and the 101st. Unbelievably, only 12 men were killed at Utah Beach (7:130).

Although the Americans used little "specialized armor," these custom tanks were used very effectively to breach obstacles and spear the assault from the beach in the British and Canadian zones on Gold, Juno, and Sword Beaches. "These vehicles had been offered to the Americans by the British, but apart from the DD tanks they were turned down as unnecessary." Specialized armor led the assault on Gold Beach. On the right flank, preliminary bombardment was ineffective, but a flail tank managed to cross the sand to breach a minefield. On the left flank the flail tanks performed well and were followed by "Carpet Layers … laying neat tracks along the cleared strips." The DD Tanks were launched directly on the shore due to the sea state. Within an hour, four paths across obstacles and minefields were cleared and an infantry brigade had passed safely to their objectives. Strongpoints were "neutralized by Petard tanks." They faced heavy defenses and were pinned down until they outflanked the defenses and brought in Petard tanks for short-range engagement. By the afternoon, they maintained control of the area (7:132-133).

Juno Beach was the responsibility of the Canadians. By the time they landed the tide had risen and only 100 yards of beach remained. They charged the sea wall without waiting for the DD tanks to land ashore. They suffered machine gun casualties "during this short dash but their initiative 'bounced' the German defenders out of their forward positions in a matter of minutes." The Flail tanks and other specialized armor soon followed opening planned routes. By 0930, the Canadians were well inland (7:133).

Surprise was lost on the extreme left flank at Sword Beach, since the assault began an hour after the Utah Beach assault and six hours after the 6th Airborne landed. The armada faced heavy coastal battery fire and "a flotilla of torpedo boats which hit a Norwegian destroyer." Despite heavy air and naval fires, strongpoints were intensely defended. High tides and rough seas swept many landing craft "onto underwater obstacles during the run-in." DD tanks were "launched 3 miles out, had a hazardous swim" but were beaten ashore by initial landing craft with flails and other specialized armor. Infantry soldiers followed armor across the beach "leaving burning landing craft and wrecked tanks along the high-water mark." They first cleared the sand on the left flank gaining a foothold. By 0930 the armor cleared seven lanes, some troops were headed for "the Caen Canal to relieve the airborne and Commando troops there" while others headed for Caen. Germans defending from a ridge stopped the advance so they dug in near Hermanville (7:133-135).



Map 4 – Omaha Beach, D-Day Assault Zones and Phased Objectives (21:88)

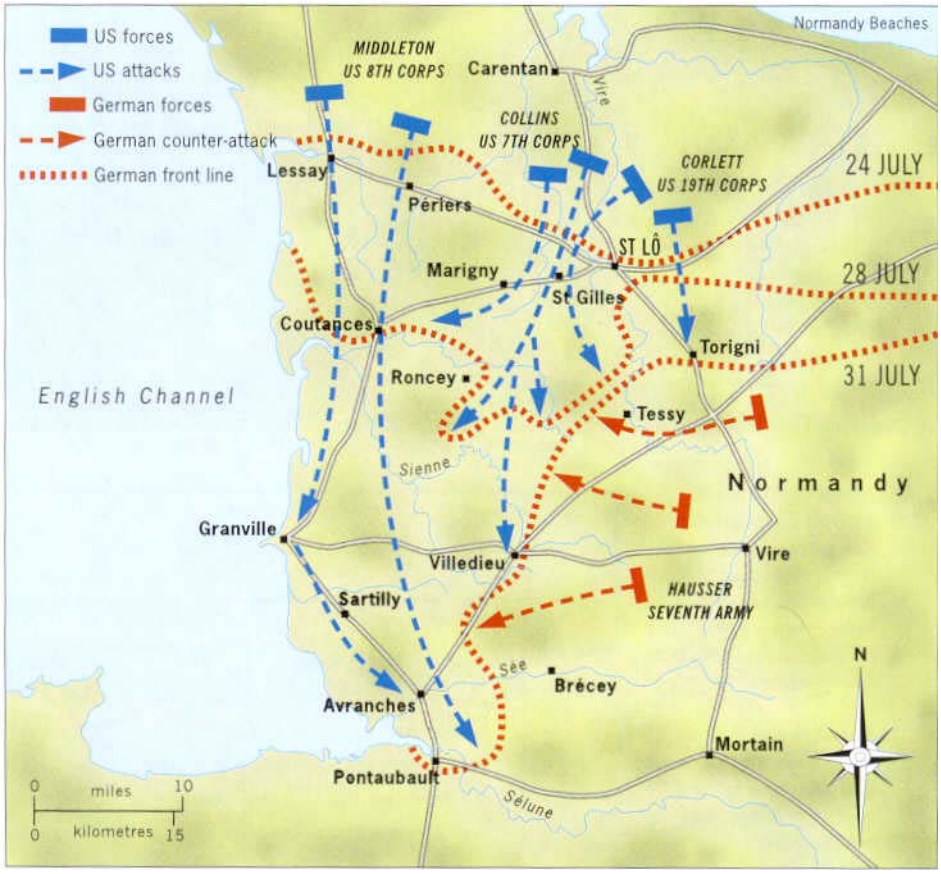
Events at Omaha Beach were a different story. The landing craft and amphibious tanks embarked way too far out resulting in enormous losses before they made the beach. The Infantry launched 12 miles out and of 32 amphibious tanks ordered to launch into rough sea 6,000 yards out, 27 "were swamped and sank with their crews," three didn't launch due to a jammed ramp, and two miraculously made the shore (7:132).

The infantry became seasick as water swept over their landing craft. They frantically bailed water with their helmets to stay afloat.

> *Equally disastrous was an attempt to ferry supporting artillery ashore loaded into DUKWs, two-and-a-half ton amphibious trucks. These fair-weather vehicles rapidly sank in the mountainous seas, and three battalions of field artillery together with their 105 mm howitzers were dumped into the sea. Under a protective umbrella of air attacks and naval gunfire the remnants of the invading force closed with the beach, but as they were still half a mile from land all the covering fire stopped. And with scarcely a pause the German defensive fires broke on them as a storm of shells, mortar bombs and bullets began to zero in on the approaching boats. Unknown to the planners, the area had recently been reinforced by the addition of the German 352nd Infantry Division. The aerial attacks had largely been ineffective, and the naval guns were hampered by the configuration of the ground, which made observation difficult.*
>
> *As the exhausted, cold, wet and disorganized troops spilled from their landing craft into the water – for none of the craft reached the beach – they were greeted by a storm of accurate fire, and it was a handful of dazed and dispirited men who finally reached the beach and were able to take shelter in the sand dunes* (7:132).

It took about a half-hour for after the initial landings to get 1,000 men ashore. After their "nightmare voyage," instead of fighting Germans, they were fighting to stay alive. This was complicated by the fact that strong currents scattered forces away from their designated landing areas. There was much confusion as many had specific tasks (such as destroying certain obstacles, attacking strongpoints, and securing objectives) and were nowhere near their destination. However, succeeding waves of men and equipment kept coming. The beach was soon "choked with burning vehicles, wrecked landing craft and wounded and dead men." No exit had yet been acquired, as available ground became saturated (7:132).

Eventually, officers collected men, engineers collected equipment, and obstacles and minefields were breached. Only 100 of 24,500 tons of supplies safely made it ashore, momentum was gained as supplies were salvaged from wreckage on the beach. Progress was slow but by the afternoon forces were moving off the beach. After German defenses were overrun, there were no enemy reserves. With Omaha behind them, "it could only get better." In stark contrast to the disastrous employment of specialized armor at Omaha which was almost totally lost in rough seas, the specialized armor played a critical role in the British and Canadian sectors at Gold, Juno, and Sword Beaches. Most of their armor was landed on the shore to avoid the rough seas (7:132).



Map 5 – Breakout from St Lo (14:148)

Following D-Day, the Allies needed to breakout of Normandy. To do this they employed massive concentrated bombing to "blast a way through at St Lo." The bombing was so close to Allied lines that many fratricide incidents occurred but the German lines would break (14:148).

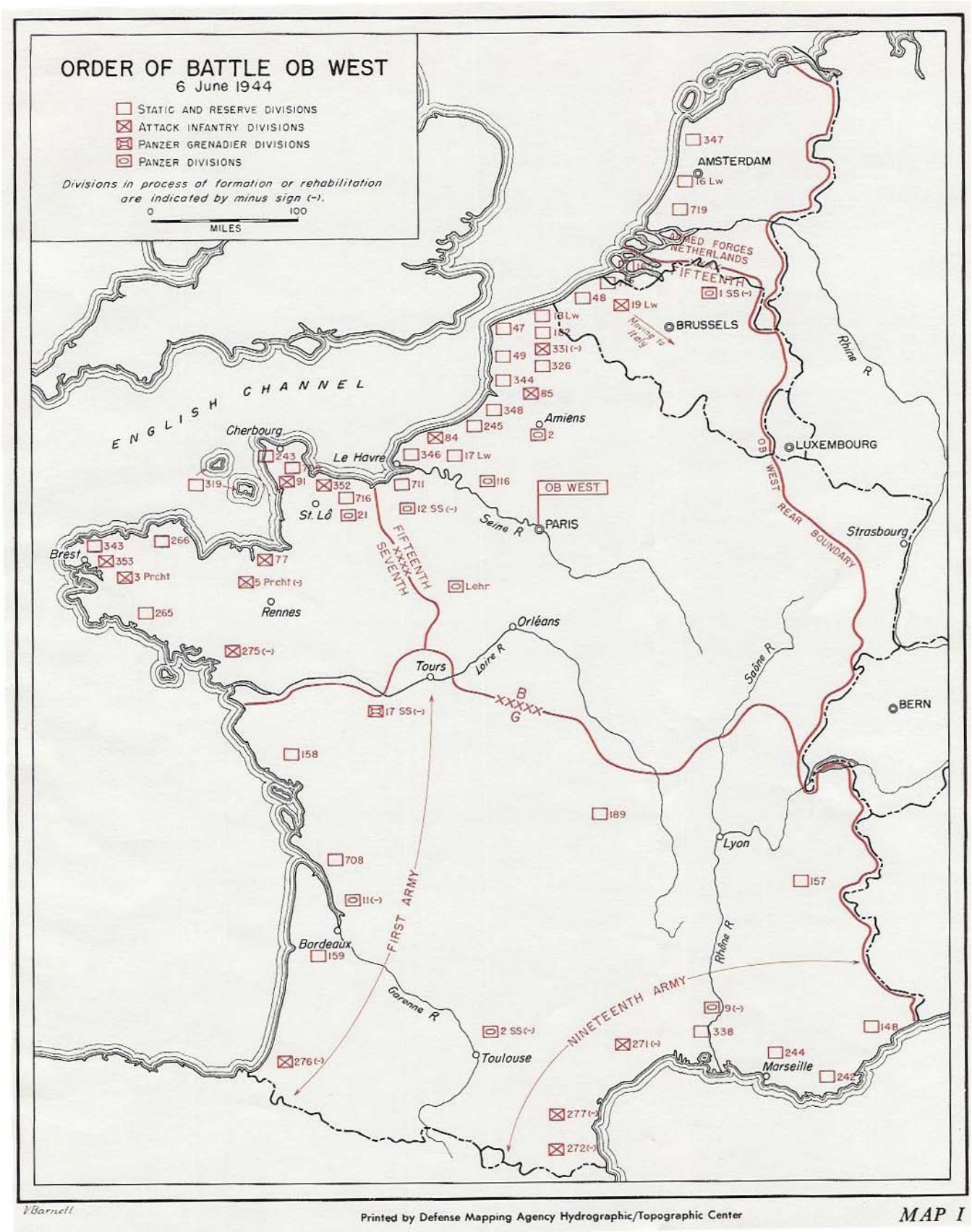
> *D-Day itself was a success, with five divisions ashore by nightfall. Over the next few days, tremendous quantities of men, vehicles and supplies were funneled through a series of artificial harbors put into place along the Normandy beaches. Hitler still believed that another attack would come at [Pas-de-Calais], and the German counter-attack in Normandy was hampered by his insistence. The territory beyond the landing beaches proved to be an unexpected obstacle to the Allied advance, with the nature of the bocage landscape meaning that the Allies had to fight from hedgerow to hedgerow. The British aimed for Caen but found the city difficult to take. The Americans drove up the Cotentin Peninsula to take Cherbourg on 27 June. By the beginning of July, there were a million men and [150,000] vehicles ashore* (14:148).

Rommel slowly massed his armored division for the German counter-attack. The British, under Montgomery, were held by seven panzer and two infantry divisions but finally took Caen (which was in ruins) on 13 July. Seven panzer divisions opposed Bradley's First Army as they pushed toward St Lo, "suffering 11,000 casualties along the way." "Rommel was wounded by an air attack on 17 July and Marshal Gunther von Kluge took over his role." The pending massive U.S. breakout operation to occur west of St Lo was code-named COBRA. Bradley decided to take advantage of Allied air superiority to break the German forces. Based on reconnaissance photos, Bradley knew he had superior supplies and numbers of forces. He had Patton's Third Army in reserve to exploit a breakout but "could not carry on grinding away at the panzer divisions with his infantry." He decided to use the road from St Lo to Periers as a clearly definable barrier to aid in concentrating bombing of German positions, which were south of it (14:148).

> *An argument broke out between how close American units should be to the St Lo road. Bradley wanted them within 800m (870yds) so as to take immediate advantage of the bombing, but the air force itself was not as confident as he was in their aim. It wanted a buffer zone of at least three kilometers (two miles). Reluctantly, Bradley agreed to a compromise of 1,200m (1,300yds), which meant his infantry had to draw back and give up hard-won ground. By 24 July, rainy weather had passed and it was deemed a good day for the Allied bombers to take off.*
>
> *As the B-17 Flying Fortresses took off, the order was cancelled, but one-third of the aircraft had already left the ground and they approached the designated target road from a perpendicular angle, not parallel as instructed by Bradley. The air force argued that this was the safest approach for the aircraft because they could fly in wider formation than the narrow funnel demanded by the road. But some of the bombs fell short and caused casualties … Bradley was furious, but the air force insisted it was the best approach for its aircraft* (14:148).

On 25 July, fight-bombers were used to devastate German lines, however another incident occurred where smoke was used to mark targets for high altitude bombers, it blew over enemy lines and caused 111 American to be killed and 490 to be wounded. After the two-day barrage stopped, American forces moved forward and broke through desperate resistance on 27 July. COBRA succeeded and Patton's motorized forces surrounded the horse-drawn German divisons in a pincer movement. "A fierce German counter-attack was fought at Avranches," but the Allied continued east and liberated Paris on 25 August (14:149).

Map 6 – German Disposition on D-Day (17:insert)



V Barnett

Printed by Defense Mapping Agency Hydrographic/Topographic Center

MAP I

Map 7 – Allied Encirclement of the German Seventh Army (17:insert)

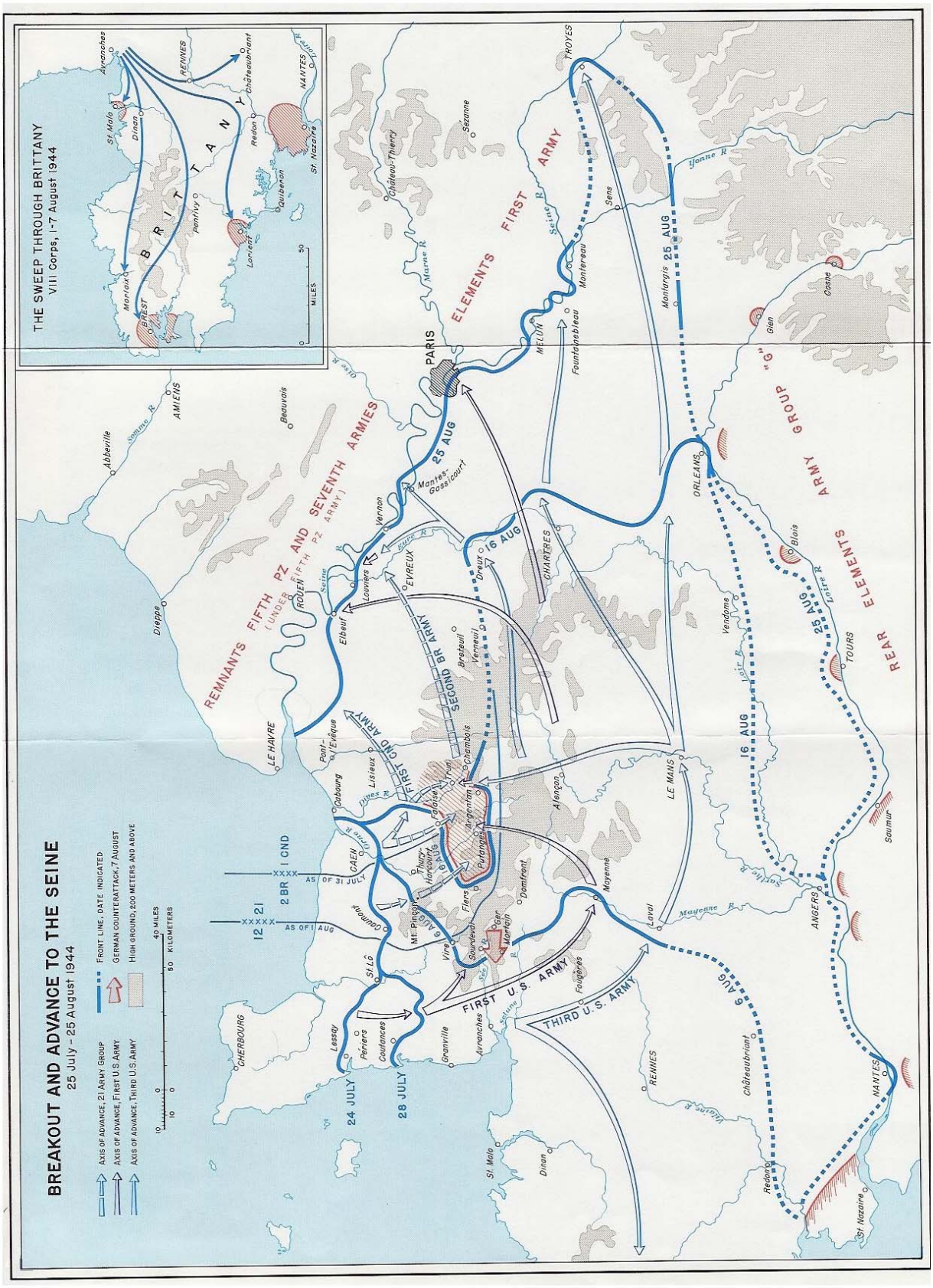
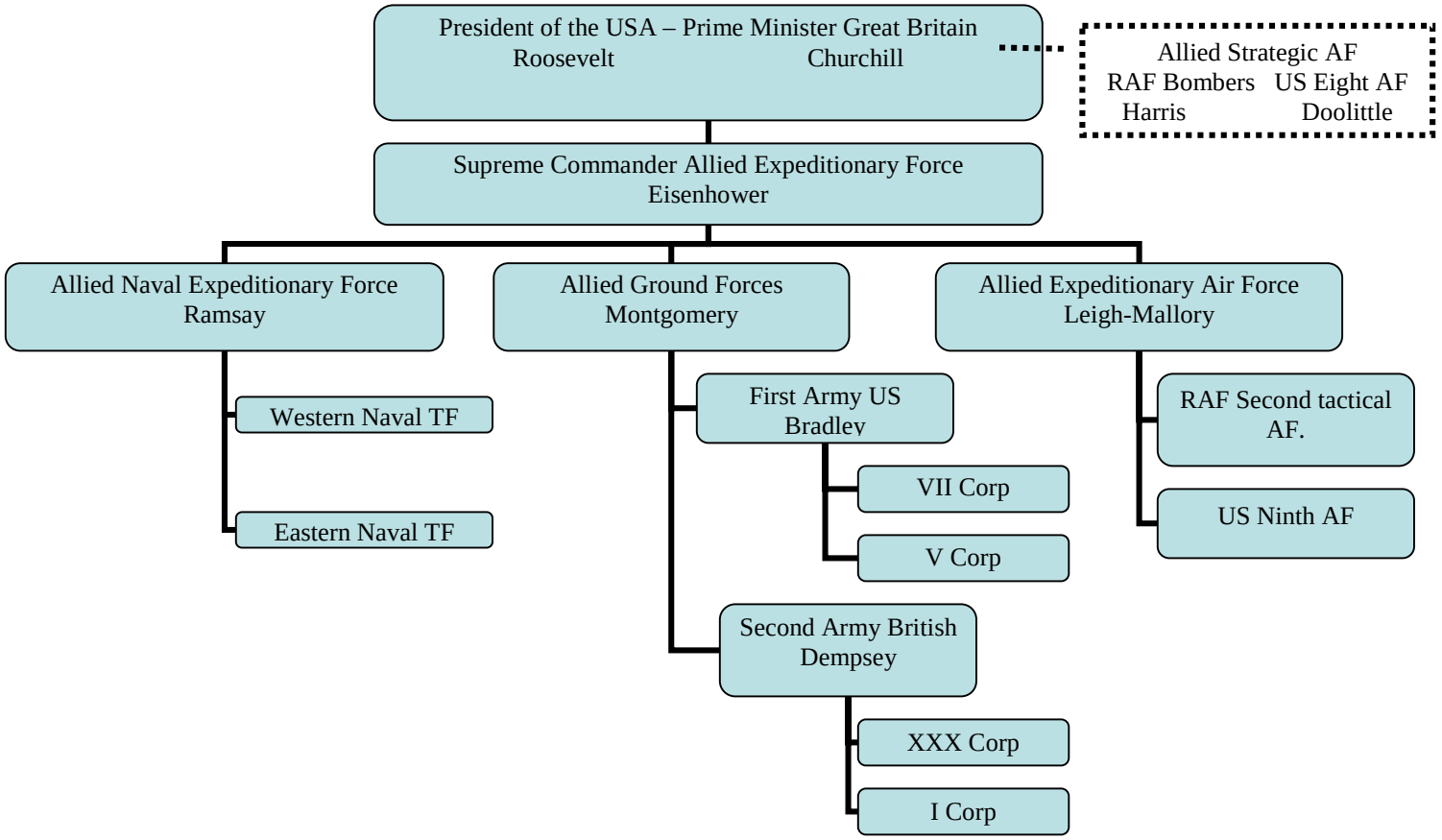


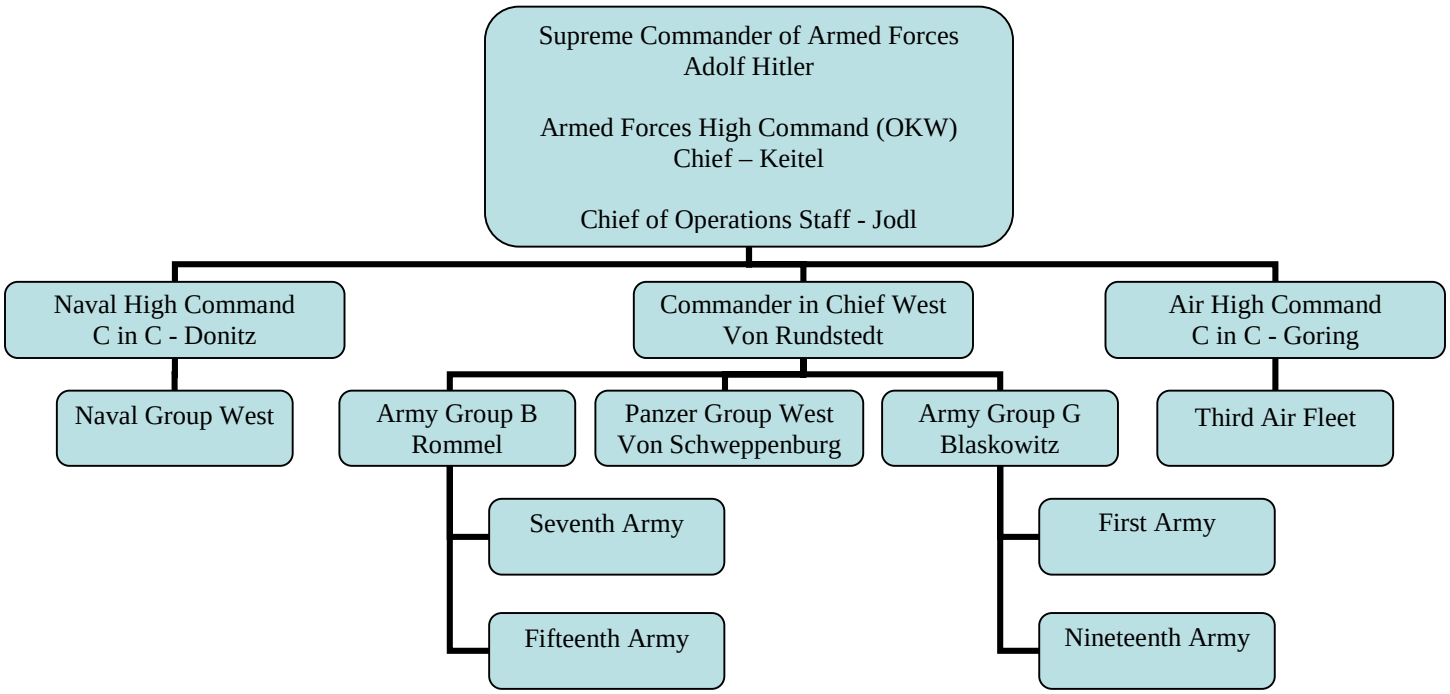
Diagram 1 – Command and Control of Allied Forces (5-122)



All the resources where under one commander, which would exercise OPCON over the assigned forces. The only exception being the strategic air assets with which he only had coordination authority. It should be said though, that the Commanders of these strategic assets had the task of supporting the Supreme Commander, and the coordination was such that unity of effort was achieved.

Unity of command was also planned and well executed in subordinate echelons. This was the case of the Allied Ground Forces under General Montgomery (British, Canadian, and U.S.) for the initial phase of the operation, and the Allied Naval and Air Expeditionary Forces (5:122).

Diagram 2 – Command and Control of German Forces (17:175)



The following quotations are taken from Forrest C. Pogue's book *US Army in WW II*:

> OKW´s control was nullified by the fact that the head of the Air Force, Goering and the head of the Navy, Raeder and later Doenitz, had personal relationship with Hitler stronger than those of OKW (Keitel), and by the opposition of the Army to any unification of the Services. Within the OKW the conduct of Operations was handled by the Armed forces Operations Staff under General Alfred Jodl. The confusion which existed in the German High Command in Berlin extended to the west as well. Until 6 June when the Allies forces stormed ashore, there existed no unified control of the enemy forces in France nor a clear-cut policy on how to deal with the attack Hitler's absorption with the problems of the Eastern Front, his lack of a consistent policy, and unwillingness to mark out clearly the authority of commanders in the field were among the factors responsible for the situation … [As for the Commander in Chief West (Rundstedt)] he had never been given control of the air and naval forces of the area. Rather their authority extended in some cases to units essential to his activities. The Third Air Force, whose planes were to support the ground troops in the west, had administrative control over paratroopers under Rundstedt´s command, as well as the control over antiaircraft units. Navy Group West controlled most of the coastal artillery of the area although an arrangement existed whereby in the event of a landing this artillery was to be placed at the disposal of the ground commanders. … More damaging still to German Unified Command was the ground forces situation. Rundstedt´s control had been encroached upon at the end of 1943 when the energetic Rommel directly subordinate to OKW, came to the west. Rommel had been made responsible for the inspection of all coastal defenses in the west and ordered to prepare specific plans to repel Allied landings in the area. His headquarters was also earmarked as a reserve command to conduct the principal battle in case of an invasion. His direct subordination to OKW was terminated by mutual agreement between Rundstedt and Rommel in early January 1944. Rommel´s headquarters was redesignated as Army Group B, and he was, in his capacity as the anti-invasion commander, given tactical command over the German forces in northwestern France, Belgium, and the Netherlands. However, Rommel retained his former inspection function for the coastal defenses and so remained in a position to influence over-all policy. … which in turn he used with the end result of antagonizing with his commander; Rundstedt, in an effort to make clear his status as Theater commander and to counterbalance Rommel´s position, established Army Group G to command the German forces in southwestern France and on the Mediterranean coast. … The period from Rommel´s appointment to D-Day was marked by his attempts to get control of the reserves, and by Rundstedt´s effort to hold something back. Rundstedt in November 1943 set up Panzer group west to control armored units in any large-scale counterattack against Allied landings; its commander supported Rundstedt´s views on defense which made impossible cooperation with Rommel (17:175).

ANNEX B (Bibliography)

1. Allied Forces. Naval Forces. *Operation Neptune, Naval Operations Orders, 10 April 1944.* London: Allied Commander-In-Chief, Expeditionary Force, 10 April 1944 (document originally Secret, later Unclassified, located at Armed Forces Staff College Library, Norfolk, VA, Record # 42796).

2. Ambrose, Stephen E. *Band of Brothers, E Company, 506th Regiment, 101st Airborne from Normandy to Hitler's Eagle's Nest.* New York: Simon & Schuster, 2001 2nd Ed.

3. Ambrose, Stephen E. *D-Day June 6, 1944 The Climactic Battle of World War II.* New York: Simon & Schuster, 1994.

4. Carruthers, Bob and Trew, Simon. *The Normandy Battles.* London: Cassell & Co., 2000.

5. Eisenhower Foundation. *D-Day, The Normandy Invasion in Retrospective.* The University of Kansas, 1971.

6. Hammond, William M. *Normandy, The U.S. Army Campaigns of World War II.* U.S. Government Pamphlet prepared in the U.S. Army Center of Military History for the 50th Anniversary of World War II Commemoration, 1995.

7. Hogg, Ian. *Great Land Battles of World War II.* New York: Barnes & Noble Books, 2002.

8. Keegan, John. *The Times Atlas of the Second World War.* New York: Harper & Row, Publishers, 1989.

9. Kemp, Anthony. *D-Day and the Invasion of Normandy.* New York: Harry N. Abrams, Inc., Publishers, 1994.

10. Kneece, Jack. *Ghost ARMY of World War II.* Gretna: Pelican Publishing Company, Inc., 2001.

11. Marathon Music & Video. *Special Edition, D-Day, Code Name: Overlord, The Build Up.* Eugene: Entertainment Distributing, 1999. Videocassette.

12. National Defense University, Joint Forces Staff College. *Doctrine for Joint Operations, Joint Publication 3-0.* Washington: GPO, 2001.

13. National Defense University, Joint Forces Staff College. *The Joint Staff Officer's Guide 2000, JFSC Pub 1.* Washington: GPO, 2000.

14. Newark, Tim. *Turning the Tide of War, 50 Battles that Changed the Course of Modern History.* London: Octopus Publishing Group Ltd., 2001.

15. Norman, Albert, Ph.D. *Operation Overlord Design and Reality.* Harrisburg: The Military Publishing Company, 1952.

16. Planning Division, Office of Director of Plans and Operations, Army Service Forces, War Department. *History of Planning Division, ASF, Vol. I.* Washington: War Department, est. date 1946 (document originally Restricted, later Unclassified, located at Armed Forces Staff College Library, Norfolk, VA, Record # 25467).

17. Pogue, Forrest C. *US Army in World War II, The European Theater of Operations, The Supreme Command.* Washington: Center of Military History United States Army, 1989.

18. Smith, Walter Bedell, General. *Eisenhower's Six Great Decisions.* New York, Longmans, Green and Co., 1956.

19. Stofft, William A., Brig. Gen. *Army Historical Series American Military History.* Washington, D.C.: Center for American Military History, 1989.

20. Sulzberger, C. L. *World War II.* New York: McGraw-Hill Book Company, 1970.

21. Swift, Michael and Sharpe, Michael. *Historical Maps of World War II Europe.* London: PRC Publishing Ltd., 2000.

ANNEX C (Additional References)

Ambrose, Stephen E. *The Wild Blue, the Men and Boys Who Flew the B-24s Over Germany 1944-45.* New York: Simon & Schuster, 2002.

Astor, Gerald. *June 6, 1944 The Voices of D-Day.* New York: St. Martin's Press, 2002.

Badsey, Stephen. *The D-Day Invasion Normandy 1944 Allied Landings and Breakout.* China: Osprey Publishing Ltd., 2000.

Lewis, Jon E. *The Mammoth Book of Battles, The Art and Science of Modern Warfare.* London: Robinson Publishing Ltd., 1999.

Marathon Music & Video. *Special Edition, D-Day, Code Name: Overlord, The Invasion.* Eugene: Entertainment Distributing, 1999. Videocassette.

Marathon Music & Video. *Special Edition, D-Day, Code Name: Overlord, The Breakout.* Eugene: Entertainment Distributing, 1999. Videocassette.

Nevins, Allan and Commager, Henry Steele with Morris, Jeffrey. *A Pocket History of the United States, (8th Revised Ed).* New York: 1986.

US Army War College. *US Army War College Selected Readings, Conduct of War Course 9 (1985) Application of Power, Theater Operations, Overlord—Campaign Planning Volume I.* Carlisle Barracks: US Army War College, 1985.

US Army War College. *US Army War College Selected Readings, Conduct of War Course 9 (1985) Application of Power, Theater Operations, Overlord—Campaign Planning Volume II.* Carlisle Barracks: US Army War College, 1985.

Weigley, Russell F. *The American Way of War.* Bloomington: Indiana University Press, 1977.

ANNEX D (Biographies)

MAJ Stephen S. Seitz is an Army Aviation Officer. He has served as a CH-47 Platoon Leader and Operations Officer as well as a Company Executive Officer in Korea, Ft. Campbell, Saudi Arabia, and Alaska. He has also served as a Multimedia Branch Chief in the Doctrine Division of the U.S. Army Aviation Center and as an exchange pilot with the Singapore Air Force (where he flew Super Pumas). He attended the Army's first Simulation Officer Qualification Course and served as the OneSAF (future simulation) Branch Chief at the National Simulation Center. He is en route to EUCOM J37.

CDR Kelly M. Oakeley is a Naval Intelligence Officer. Her career spans duty at USACOM, SEAL Team Five, Commander 2nd Fleet, and USSTRATCOM JIC. She attended JPME Phase I at CGSOC, Ft. Leavenworth, Kansas.

CDR Francisco Garcia-Huidobro, Chilean Navy is currently serving as LNO to CINCANTFLT. He was commissioned through the Chilean Naval Academy in 1979. He is a Weapons Officer and has attended the staff course in the Chilean Naval War College in 1998. He has commanded a Fast Attack Craft unit and a Fast Attack Craft squadron during 1999 and 2000 respectively. Prior to coming to the U.S. he served as Operation Officer (N-3) of the naval surface forces in Chile.